

**Amendments to the Claims:**

Claim 1 (original): A grounding arrangement in a system for ECG monitoring in which some of the connector elements (14) of the lead set connector (13) are alternatively used either for recording of ECG signals or for grounding of lead wire shields, characterized in that the grounding is performed through a current limiting circuit (27).

Claim 2 (original): A grounding arrangement as defined in claim 1, characterized in that the current limiting circuit (27) exhibits non-linear voltage-current characteristics.

Claim 3 (original): A grounding arrangement as defined in claim 1, characterized in that the current limiting circuit includes a current-limited voltage source.

Claim 4 (original): A grounding arrangement as defined in claim 3, characterized in that the activation of the current limiting function is used for detection of the addition of new measuring electrodes.

Claim 5 (original): A grounding arrangement as defined in claim 1, characterized in that the current limiting circuit consists of passive components, at least one of which exhibits non-linear voltage/current characteristics.

Claim 6 (currently amended): A grounding arrangement as defined in claim 1 ~~claims 1, 2, 3, 4 or 5~~, characterized in that there are individual current limiting circuits for each connector element.

Claim 7 (currently amended): A grounding arrangement as defined in claim 1, ~~2, 3, 4 or 5~~, characterized in that one single current limiting circuit is used for more than one connector element.

Claim 8 (currently amended): A grounding arrangement as defined in claim 1, ~~2, 3, 4 or 5~~, characterized in that one single current limiting circuit is used for all connector elements.

Claim 9 (original): A grounding arrangement as defined in claim 4, characterized in that the current limiting circuit (27) includes a detecting circuit (32) for detection of the addition of new measuring electrodes.

Claim 10 (original): A grounding arrangement as defined in claim 9, characterized in that the detecting circuit (32) is a comparator.

Claim 11 (original): A grounding arrangement as defined in claim 9, characterized in that the detecting circuit (32) is a analog-to-digital converter.

Claim 12 (original): Method for grounding in a system for ECG monitoring in which some of the connector elements (14) of the lead set connector (13) are alternatively used either for recording of ECG signals or for grounding of lead wire shields, characterized in that the lead wire shields are grounded through a current limiting circuit (27).

Claim 13 (original): Method as defined in claim 12, characterized in that said current limiting circuit (27) is arranged to exhibit non-linear voltage-current characteristics.

Claim 14 (original): Method as defined in claim 12, characterized in that the addition of new measuring electrode is detected through a current limiting circuit (27).

Claim 15 (original): Method as defined in claim 12, characterized in that the method further comprises the steps of:

measuring a current coming to said current limiting circuit, and

when the measured current exceeds a predefined limit current, detecting the

5 addition of new measuring electrode.